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Ancient cities in Rome and Greece were famous for their mosaic tile floors and walls—some of which still exist today! The fact that their beauty has withstood centuries of use and neglect demonstrates that tile is a superior building material, one that finds many uses in modern commercial, industrial, and residential buildings. In fact, tile has been used in homes and other buildings for more than 4,000 years.

Marble has also been used since antiquity and can be found in the most prestigious buildings of the ancient world. Marble possesses a natural beauty and can be carved, split, and polished easily. These properties also mean that marble is highly prized as a flooring and wall surface today.

Tile and marble are wonderful building materials. They are water resistant, fireproof, and can't be munched on by bugs. Both products are strong, resisting the occasional bump or ding. And, being fireproof, tile and marble can even be used to enhance the beauty of a fireplace or stove. As they are also water-resistant, tile and marble can be found around swimming pools, and in bathroom and kitchen countertops and floors.

**Tasks**

- ▶ Determine and implement the best layout to achieve a desired pattern.
- ▶ Prepare cost and labor estimates based on calculations of time and materials needed for project.
- ▶ Measure and mark surfaces to be tiled, following blueprints.
- ▶ Build underbeds and install anchor bolts, wires, and brackets.
- ▶ Level concrete and allow to dry.
- ▶ Cut and shape tile to fit around obstacles and into odd spaces and corners, using hand and power cutting tools.
- ▶ Mix, apply, and spread plaster, concrete, mortar, cement, mastic, glue, or other adhesives to form a bed for the tiles, using brush, trowel, and screed.
- ▶ Apply mortar to tile back, position the tile, and press or tap with trowel handle to affix tile to base.
- ▶ Align and straighten tile using levels, squares, and straightedges.
- ▶ Finish and dress the joints and wipe excess grout from between tiles, using a damp sponge.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O\*NET) at [online.onetcenter.org](http://online.onetcenter.org).

## Tile and Marble Setters

### Important Skills, Knowledge, and Abilities

- ▶ Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- ▶ Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
- ▶ Mathematics — Using mathematics to solve problems.
- ▶ Coordination — Adjusting actions in relation to others' actions.
- ▶ Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- ▶ Equipment Selection — Determining the kind of tools and equipment needed to do a job.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
- ▶ Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.
- ▶ Multilimb Coordination — The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.
- ▶ Near Vision — The ability to see details at close range (within a few feet of the observer).
- ▶ Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.
- ▶ Trunk Strength — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

### Work Environment

Tile and Marble Setters usually work indoors in buildings that are under construction or that are being remodeled. The work is strenuous and involves a great deal of prolonged standing, reaching, bending, kneeling, and heavy lifting. Setters lift boxes of tiles, cement bags, and mortar buckets which may weigh 100 pounds or more. Hazards of the job include falls from ladders, possible cuts from tools or materials, muscle strains, and back and knee injuries.

Most Tile and Marble Setters work about 40 hours a week. They may be represented by various unions including the International Union of Bricklayers and Allied Craftworkers, the Ceramic Tile Layers Union, and the United Brotherhood of Carpenters and Joiners of America. However, most Tile and Marble Setters in California are not members of unions.

# Tile and Marble Setters

## California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
<b>Tile and Marble Setters</b>				
47-2044	17,400	22,800	810	\$15.20 to \$25.57

*Wages do not reflect self-employment.*

*Average annual openings include new jobs plus net replacements.*

*Source: [www.labormarketinfo.edd.ca.gov](http://www.labormarketinfo.edd.ca.gov), Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.*

## Trends

Tile is used in both residential and commercial buildings. Since the demand for Tile and Marble Setters is closely linked with the overall level of construction, employment is expected to grow at a much faster than average rate from 2004 to 2014.

New materials have both changed the demand for Tile and Marble Setters, and affected what they do on the job. Stone, such as granite and granite composites, began to see widespread application in homes and businesses more than a decade ago. Marble has had a long history of use in construction. Solid composites have also been used in place of tile as well. Sometimes, Tile and Marble Setters will install this material.

On the other hand, tile itself may be more widely used as houses become more elaborate and tile and marble are often viewed as a "move up" building material. It may replace inexpensive material such as plastic laminate material on countertops and bathtub/shower walls.

## Training/Requirements/Apprenticeships

Tile and Marble Setters usually follow one of the following training paths:

- ▶ Formal apprenticeship
- ▶ Community college programs or certificates
- ▶ Vocational school
- ▶ Extensive on-the-job training

Tile and Marble Setters usually begin as helpers. Sometimes, they enter an apprenticeship program. To be an apprentice, candidates must be at least 18 years old and be physically able to perform the work of the trade to become an apprentice. After completing a three or four-year program that includes both practical and classroom education, the apprentice can advance to full journey-level status. An apprenticeship program usually consists of on-the-job training and related classroom instruction in blueprint reading, layout, and basic mathematics. The apprenticeship program is overseen by the California Department of Industrial Relations, Division of Apprenticeship Standards ([www.dir.ca.gov/das](http://www.dir.ca.gov/das)).

Though there are no formal educational requirements, employers usually prefer high school graduates. Job applicants should know basic mathematics, and be able to read and write. In areas where there are no union apprenticeship programs, many Tile and Marble Setters acquire skills informally by working as helpers to experienced workers.

## Tile and Marble Setters

### Recommended High School Course Work

High school students interested in this type of work should take course work in basic mathematics, shop, mechanical drawing, and blueprint reading.

### Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods. Construction jobsites, housing developments, and commercial building projects are places to look. Since tile setting requires a lot of skill to be done properly, many builders are looking for workers who have a good reputation in the community.

Use the *Search for Employers by Industry* feature on the *Career Center* page at [www.labormarketinfo.edd.ca.gov](http://www.labormarketinfo.edd.ca.gov) to locate employers in your area. Search using keywords from the following construction industry names to get a list of private firms and their addresses:

- ▶ Commercial Building
- ▶ Employment Placement Agencies
- ▶ Floor Covering Stores
- ▶ Industrial Building
- ▶ Professional Employer Organizations
- ▶ Temporary Help Services

For local listings of contractors, search these **yellow page** headings for listings of private firms:

- ▶ Building Materials-Retail
- ▶ Concrete Products
- ▶ Counter Tops
- ▶ Floor Materials
- ▶ Marble-Natural
- ▶ Tile-Ceramic-Contractors
- ▶ Tile-Ceramic-Dealers

### Where Can The Job Lead?

Tile and marble setting is a highly skilled occupation. Many journey-level workers get a contractor's license that allows them to work on their own, which has the potential to offer greater pay and more freedom to choose jobs.

### Other Sources of Information

International Masonry Institute  
[www.imiweb.org](http://www.imiweb.org)

International Union of Bricklayers and Allied Craftworkers  
[www.bacweb.org](http://www.bacweb.org)

United Brotherhood of Carpenters and Joiners of America  
[www.carpenters.org](http://www.carpenters.org)

California Department of Consumer Affairs, Contractors State License Board  
[www.cslb.ca.gov](http://www.cslb.ca.gov)

Ceramic Tile Institute of America  
[www.ctioa.org](http://www.ctioa.org)